

**Factoring using GCF & Trinomials  
Practice Assessment**

Name:

key

I. Factor each polynomial using the GCF.

1.  $8x + 10$

$2(4x + 5)$

2.  $12n^3 - 8n$

$4n(3n^2 - 2)$

3.  $14d - 2$

$2(7d - 1)$

4.  $6h^2 - 8h$

$2h(3h - 4)$

5.  $3z^4 - 15z^3 - 9z^2$

$3z^2(z^2 - 5z - 3)$

6.  $3y^3 - 8y^2 - 9y$

$y(3y^2 - 8y - 9)$

II. Factor each trinomial into the product of two binomials.

7.  $x^2 - 2x - 15$

$(x - 5)(x + 3)$

8.  $x^2 + 5x - 6$

$(x + 6)(x - 1)$

9.  $x^2 - 5x - 14$

$(x - 7)(x + 2)$

10.  $x^2 - 4x + 4$

$(x - 2)(x - 2)$

11.  $x^2 - 5x + 4$

$(x - 4)(x - 1)$

12.  $x^2 + 3x - 4$

$(x + 4)(x - 1)$

III. Factor each trinomial into the product of two binomials.

13.  $4x^2 + 12x + 5$

$(2x + 1)(2x + 5)$

14.  $2x^2 + x - 3$

$(2x + 3)(x - 1)$

15.  $2w^2 + 13w + 15$

$(2w + 3)(w + 5)$

16.  $7c^2 - 2c - 9$

$(7c - 9)(c + 1)$

17.  $3x^2 + 11x + 6$

$(3x + 2)(x + 3)$

18.  $3x^2 + 8x + 4$

$(3x + 2)(x + 2)$

#### IV. Applications & Error Analysis

19. The area of a rectangular computer screen is  $4x^2 + 20x + 16$ . The width of the screen is  $2x + 8$ . What is the length of the screen?

$$(2x + 8)(2x + 2)$$

20. Find two different values that complete the expression so that the trinomial can be factored in the product of two binomials. FACTOR the trinomial.

$$4x^2 + \Delta x + 12$$

$$\Delta = 19$$

$$\begin{array}{l} (4x + 3)(x + 4) \\ (4x + 1)(x + 12) \end{array}$$

$$\Delta = 49$$

21. 20. Find two different values for  $\Delta$  that complete the expression so that the trinomial can be factored in the product of two binomials. FACTOR the trinomial.

$$6x^2 - \Delta x - 4$$

$$\Delta = 5$$

$$\begin{array}{l} (2x + 1)(3x - 4) \\ (6x + 1)(x - 4) \end{array}$$

$$\Delta = 23$$

22. Describe and correct the error made in factoring the expression.

$$\begin{aligned} 6x^2 + 3x - 9 &= 3(2x^2 + x - 3) \\ &= 3(x + 1)(2x - 3) \end{aligned}$$

signs are incorrect  
this gives  $2x^2 - x - 3$

corrected

$$3(x - 1)(2x + 3)$$